THE MINERAL INDUSTRY OF

POLAND

By Walter G. Steblez

Poland remained a major world producer of coal, copper, salt, silver, and sulfur and was ranked among the top European producers of lead, lime, nitrogen (in ammonia), and zinc.

In 1995, Poland's growing market economy displayed continuing growth and improvement in contrast to the country's centrally planned economy's contraction during the 1990-92 period. In 1995, Poland's GDP reportedly increased by about 7%, compared with that of 1994, and industrial production rose by 9.4%. The chief issues that affected Poland's minerals industry in 1995 included the continued denationalization and decentralization of industrial enterprises, including those in the country's minerals sector.

The Government of Poland continued to promote the decentralization and privatization of the economy, as well as the growth of both the domestic and export markets. The private sector's share in industry also continued to grow but was modulated by social demands for slower denationalization of large-scale, state-owned heavy industry enterprises, such as those in mining, metals production, and machine building. According to official sources, a total of 417 industrial enterprises were denationalized in 1994, of which 10 were in the mining and quarrying sector, 33 were in the industrial minerals products sector and 7 were involved in the production of metals.² Reportedly. preliminary data for 1995 showed the process of privatization to have started in 479 enterprises. ³ To conform with the emerging market economy in Poland, in February 1994, the Sejm, Poland's lower legislat ive body, adopted new laws on geologic surveying and mining. One of the main provisions of the new legislation addressed the tension arising from the country's need to mine and its need to protect the environment. Provisions in the new law also regulate d concessions and worker safety in underground mining and defined responsibility for damages stemming from mine subsidence.4

Environmental protection also remained an important component of the Government's plans to restructure the country's economy.

Pollution from heavy industrial point sources (mining, processing, smelting, and electric power generation) continued to pose major problems with respect to actual and potential damage to public health and the general environment and, consequently, in some areas constrained the development of the country's minerals sectors. A significant

portion of atmospheric pollutants, such as sulfur dioxid e annually generated in Poland, was associated with the consumption of low-rank coal and lignite at thermal electric power stations. Of the total 31,390 MW of electric power generating capacity, 23,090 MW was produced by coal-fired thermal electric powerplants, of which approximately 65 % was generated at plants using lignite. In 1994, the emission of carbon dioxide, sulfur dioxide and nitrous oxide remained at about the same levels that were emitted in 1993, amounting to 534,000 t, 1,726,000 t, and 552,000 t, respectively.

In 1995, Poland's output of metals generally remained at levels that were achieved in 1994. The production of most industrial minerals and mineral fuels also remained at levels comparable to those achieved in 1994. (*See table 1.*) The information provided in table 2 lists the names of administrative bodies as well as subordinate production units of the main branches of the country's mineral industry in 1995. (*See table 2.*)

Available aggregated commodity trade returns for 1994 indicated the value of Poland's metals exports to have increased sharply by 44% compared with those of 1993 and to have constituted about 14% of the country's total industrial exports. About 68% of Poland's exports of metals was received by developed market economy countries; about 24% was received by developing countries, and 8% by transitional economy countries of Eastern and Central Europe and the Republics of the FSU. Poland's major metals exports i n 1994 were aluminum, copper, silver, steel, and zinc (amounting to 55,094; 353,784; 979; 3,875,100; and 91,064 tons, respectively).8 In 1994, the value of imports of metals represented about 5.1% of the value of the country's total imports, increasing by approximately 54% compared with those of 1993. In terms of value, about 58% of Poland's imports of metals was obtained from developed market economy countries, 37% was received from the transitional economy countries of Eastern Europe and the Republics of the FSU, and about 5% from developing countries. Poland's imports of iron ore and concentrate in 1994 amounted to 8,447,700 t. The Republics of the FSU, especially the Ukraine and Russia, remained Poland's chief suppliers of iron ore, providing, in terms of value, 86% of the country's total imports. Poland's other major metal imports included rolled steel and semimanufactures, about 740,000 t, and aluminum, 77,194 t. Germany was a major supplier of steel

products to Poland, accounting for about 14% of the total value of Poland's steel imports during the year.

Exports of industrial minerals continued to increase in 1994. Compared with those of 1993, Poland's exports of commodities produced by this sector increased by about 58%, constituting about 3.5% of Poland's total exports fo r 1994. Cement, glass, and sulfur were among the country's principal industrial mineral exports, amounting to 4,401,300 tons, 1,813,500 tons, and 275,900 tons, respectively. Major importing countries of Poland's sulfur and unroasted pyrites in 1994 were Brazil, the Czech Republic, and the Unite d Kingdom (15%, 7%, and 6%, respectively, of the value of total exports of sulfur in 1994). Germany was the major importer of cement, lime, and fabricated construction materials produced in Poland, which accounted for 93% of the total exports of these commodities from Poland. The value of Poland's imports of industrial minerals increased by 63% in 1994 compared with those of 1993, and constituted 2.4% of total imports for 1994.

In respect to mineral fuels, Poland continued to be both a major exporter of bituminous coal and importer of petroleum and natural gas. Poland's total coal exports for 1994 amounted to 27,977,000 t; coke and semicoke exports were reported at 3,105,000 tons. Finland, Germany, and the United Kingdom were among the principal recipients of Polish coal during the year, respectively accounting for 14%, 12%, and 19% of the total value of the exported coal. On the other hand, Poland continued to depend on shipments of crude petroleum from the Republics of the former FSU. Poland's total imports of petroleum in 1994 amounted to more than 12.7 Mt, of which slightly more than 50% was supplied by former Soviet producers. Russia's share of petroleum exported to Poland in 1994 amounted to 47%. 10 Russia also provided Poland with about 99% of the country's import requirement of natural gas during the year. The country's total imports of natural gas amounted to about 2.3 billion cubic meters.

Although Poland maintained critical commercial linkages with former fellow members in the CMEA, especially in respect to mineral raw materials, the country's foreign trade in recent years on balance has demonstrated major diversification in the market for all commodity groups.

In 1995, Preussag AG of Hannover Germany, established a trading office in Warsaw to help expand its commercial operations in Poland, which reportedly in 1994 generated US\$130 million in revenues. Preussag's main operations in Poland involve trading in steel and nonferrous metals. Reportedly, Preussag's trading office in Warsaw would serve not only as a base for expanding the company's operations in Poland but also those in other former CMEA areas. ¹¹

The chief activities in Poland's aluminum industry involved efforts to denationalize Poland's aluminum smelter at Konin and to increase the country's aluminum fabricating base. In early 1995, officials of Huta Aluminium Konin SA (HAK) announced plans to seek foreign investment to

modernize the company's production lines, largely through foreign investment. HAK officials indicated that the cost of the modernization program would extend over 5 years and would amount to about US\$60 million. The HAK smelter produced about 50,000 t/yr of primary aluminum from alumina imported from Ireland and Spain on the basis of a 4-year contract, which represented about 50% of the Poland's annual consumption of primary aluminum.¹² About 20% of the company's output was designated for export, largely to Germany. The denationalization and sell-off of the Hak smelter was scheduled for yearend 1995. By yearend, a short list narrowed perpective bidders for HAK to two: Aluma x Inc. of the United States and a domestic firm. Aluma x reportedly was negotiating to acquire a 75% interest in the company.¹³

Continental Can Europe's subsidiary, Continental Can Polska SA, announced in December 1994 that aluminum would be the company's metal of choice at the company's new US\$50 million production line at Radomkoski. At full capacity, this fabricating facility would produce 450 million cans per year. Additionally, Can Corp.(Pennsylvania) of the United States was the main investor in facility expansion at the Brzesko packaging plant near Krakow. A new production line was reportedly installed at this facility that at full capacity would produce 300 million aluminum cans per year.¹⁴

The issue of privatizing Kombinat Gorniczo Hutnicz y Miedzi (KGHM), Poland's mining, beneficiation, smeltin g and refining complex, remained current in 1995. Discussions and plans concerning the privatization, or a t least denationalization had not acquired any concrete form during this period. By yearend 1994, KGHM's status was that of a stock company with the State holding 100% of the company's shares. ¹⁵ By yearend 1995, despite the Government's sell-off approval, KGHM's status remained unchanged. However, the Ministry for Privatization reportedly opened a tender that sought an adviser for a future sale of a 24% stake in KGHM. In an effort to acquire an international dimension, KGHM also indicated that it had been considering the acquisition of mining and investment rights at copper deposits in Chile, Zaire, and Zambia. ¹⁶

In the country's steel industry two major trends were discernible in 1995: plans for the industry's restructuring that were generally consonant with proposals developed in 1992 by a consortium of consultants from Canada and plans to raise continuous casting from about 12% of total steel production in 1995 to about 30% in 1996. The restructuring plan reportedly was to involve cooperation between Hut a Sendzimira and Huta Katowice in the form of resource pooling. Huta Katowice would use spare steel production capacity of about 1.5 to 1.7 Mt/yr to supply Huta Sendzimira's 3.2 Mt/yr-rolling mills with slabs. Also, Huta Sendzimira would be in an environmentally better position in respect to nearby Krakow because of the reduction in the local smelting operations. ¹⁷ Plans to streamline the stee l

industry in general continued. Steel production by open hearth method declined from 29% of total steel production in 1990 to about 14% in 1994. Continuous casters were installed during the year at Zawiercia, Huta Katowice, and several other facilities. Voest-Alpine Industrieanlagenba u GmbH of Austria, Mannesmann-Demag AG of Germany, and Danieli & C. SpA of Italy were the principal suppliers of equipment for these projects. Significantly, Huta Zawiercia with an electric steel-making capacity of 1 Mt/yr became the first major Polish steel prod ucer to achieve 100% continuous casting. ¹⁸

Lead and zinc ore was mined in the sou theastern part of the country at three underground mines. The Boleslaw mining, concentrating, and zinc refining complex at Bukowino produced ore reportedly grading 0.6% lead and 3.4% zinc. The Olkuz-Pomorzany Mine, near Olkusz, part of the Boleslaw operation, produced ore reportedly grading 1.2% lead and 3.5% zinc, and the Trzebinia Mine and concentrator, at Trzebinia, near Chrzanow, produced ore grading 3.7% lead and 2% zinc.

In 1995, the privatization and foreign ownership of Poland's cement industry continued. Reportedly, Lafarge of France acquired the Kujawy cement plant in July for US\$46 million. The Kujawy cement plant was the seventh Polish cement mill to have been privatized by the country's Ministry of Privatization. Lafarge also announced plans to make investments at the Kujawy facility equivalent to about US\$37 million during the subsequent 5-year period. ¹⁹ Also, CR H Plc. of Dublin, Ireland, announced the acquisition of 75% of the shares in Poland's Cementownia Ozarow SA (Ozarow). Orazow, about 170 km southeast of Warsaw, was reported to own substantial reserves of limestone nearby. The facility operated two kilns with a total output of 2.3 Mmt/a. ²⁰

In September, Poland's Ministry for Privatization announced a tender for potential investors interested in acquiring 10% of the Inowroclawskie Kopalni Soli SA, one of the country's major salt mines. ²¹

Moreover, Poland's Ministry for Privatization late in the year decided to offer the country's state-owned soda as h operations, Janikosoda SA and Soda Matwy SA, for sale. Then combined capacity of both plants was reported to be about 500,000 t/yr of soda ash as well as a number of other products. The initial offering amounted to 75% of the shares of both companies. Rhone Poul enc of France and Solvay SA of Belgium reported interest in the stock offering as well as in the Inowroclawskie Kopalni salt mining operation. ²²

In terms of output, consumption, and export trade, coal remained the country's chief mined product. Poland's resources of bituminous and anthracite coal were in Upper and Lower Silesia and in the Lublin District. The governing factors bearing on the future of Poland's coal industry were depletion (or near depletion) at a significant number of the country's bituminous coal mines and the availability of investment capital to develop mines and deposits with the best likelihood of operating pro fitably. Within the context of

the country's transition to a market economy system, the restructuring of Poland's coal mining sector involved the division of the bituminous coal mining and processing sector into 8 companies, each consisting of between 7 and 13 mines. Reportedly, the criteria that were used to determine the distribution of mines by company included the mines' proximity to each other, the feasibility of using common equipment and materials, the maximum exploitation of deposits, and the greatest capability of reemploying workers from closed mines. The actual restructuring program began with the decision to close seven mines determined to be beyond any chance of becoming profitable. However, the social costs associated with rapid closures, coupled wit h organized protests and strikes by trade unions, had put considerable restraints on this process. These restraints, given other imperatives of the economy (continued high reliance on coal until after the year 2000 and the need to capitalize current profitable mines and new deposits), would be short term, in view of the average US\$70/mt of produced coal subsidies issued by the Government to money losin g coal-mining enterprises.

Because of the country's need for greater amounts of domestically produced energy as well as the constraints on the choice of energy carriers, dictated by environmental protection concerns, Poland's energy-producing sector devoted a great deal of attention and work during 1994 toward developing the country's commercial coalbed methane deposits. To achieve this end, Poland's Ministry of Environmental Protection and Natural Resources and Forestry auctioned prospecting concessions at about 12 coal deposits in the Silesian coal basin. Apparently, the riches t coalbed methane deposit to date has been found in the Rybnik Coalfield.²³ Currently, less than 30% of the gas is recovered at the mines; about 3,000 Mm³ is lost annually. Resources of coalbed methane are believed to approximate those of conventional natural gas, which are the basis for producing about 4,000 Mm³/yr of gas. Given the approximate 7,000 Mm³/yr of gas imported from Russia, the development of the country's coalbed methane resources could effectively reduce natural gas imports by more than 55% in the near term. In 1995, Poland had 4,500 km of pipeline for natural gas, 1,986 km of pipeline for crude petroleum, and 360 km of pipeline for refined products.

To ensure maximum interim employment during the country's economic transition to a market economy, near-term Government policies probably will continue to direct subsidies to some state-owned heavy industries, such as coal mining and steel production. The steel industry's production profile in the long term should tend toward the output of higher value specialty steels. Poland's coal, copper, lead, sulfur, and zinc industries, because of their developed infrastructures and operations and relatively well-assured mineral resources, should continue mining and processin g activities (with improved pollution controls) for at leas t another 10 to 15 years.

¹FBIS-EEU-96-026-S. Feb. 7, 1996, p. 16; from PAP 1526 GMT Jan. 31,

²Rocznyik Statystyczny Przemyslu. 1995, p. 19.

³FBIS-EEU-96-026-S. Feb. 7, 1996 p. 17; from Rzeczpospolita, Jan. 18, 1996, p. 9.

⁴Mining Magazine (London). V. 170, Mar. 1994, p. 178.

⁵International Directory of Electric Utilities. 3d ed. (McGraw-Hill, Inc., New York, 1991), pp. 84-85.

⁶Rocznik Statystyczny. 1995, p. 31. ⁷Rocznik Statystyczny Prezemyslu. 1995, p. 168.

⁸Yearbook of Foreign Trade Statistics. 1995, pp. 140-143.

⁹Page 262 of work cited in footnote 8.

¹⁰Page 266 of work cited in footnote 8.

¹¹American Metal Market. V. 102, No. 239, p. 4.

¹²Mining Magazine. Feb. 10, 1995, p. 113; and Rocznik Statystyczny Przemyslu. 1995, p.175.

¹³Mining Journal (London). Nov. 6, 1995, p. 255. ¹⁴American Metal Market. V. 102, No. 247, Dec. 23, 1994, p. 10.

¹⁵Metal Bulletin (London). Feb. 17, 1994, p. 16.

¹⁶Mining Journal (London). Dec. 22-29, 1995, p. 474.

¹⁷Metal Bulletin Monthly. Feb. 1995, p. 71.

¹⁸American Metal Market June 6, 1995, pp. 1, 16.

¹⁹FBIS-EEU-95-168-S. Aug. 30, 1995 p. 15; from Rzeczpspolita, July 14, 1995, p. 1.

²⁰Industrial Minerals. July 1995, p. 57.

²¹Mining Journal (London). Sept. 1, 1995, p. 154. ²²Industrial Minerals. Oct. 1995, p. 19, and Nov. 1995, p. 24.

²³Mining Magazine (London). Dec. 1992, pp. 387, 389.

TABLE 1 POLAND: PRODUCTION OF MINERAL COMMODITIES 1/

(Metric tons unless otherwise specified)

Commodity 2/		1991	1992	1993	1994	1995 e/
METALS		45.072	12.620. /	46.042	40.500 /	52.000.2/
Aluminum metal, primary		45,973 r/	43,628 r/	46,942 r/	49,509 r/	52,000 3/
Alumina, nonmetallurgical (<30% Al2O3) e/		200	200	200	200	200
Cadmium metal, primary		364	132	149	150	150
Copper:						
Ore:		24.724	04.114 /	27.112 /	26.126	26.500
Gross weight	thousand tons	24,734 r/	24,114 r/	27,113 r/	26,136 r/	26,500
Metal content		358,000 r/	373,000	431,000 r/	395,000 r/e/	397,000
Concentrate:		1.450 / /	1.452 /	1.550 /	1.570 /	1.550
Gross weight	thousand tons	1,450 r/e/	1,453 r/	1,559 r/	1,570 e/	1,550
Metal content	=	320,100 r/	331,900 r/	383,600 r/	380,000 e/	380,000
Metal:						
Smelter: Primary		358,000 e/	385,486 r/	396,000 e/	350,000	350,000
		15,000 e/	15,963 r/	16,000 r/e/	15,000	15,000
Secondary Total		373,000 e/	401,449	412,000 r/	365,000	365,000
Refined (cathode)		378,479 r/	387,010 r/	404,170 r/	405,093 r/	407,000 3/
Gold: e/		3/0,4/9 1/	367,010 1/	404,170 1/	403,093 1/	407,000 3/
Mine output, Au content, recoverable	thousand kilograms	30	30	30	30	30
Metal. smelter 4/	kilograms	300 r/	300 r/	300 r/	300	300
Iron and steel:	Kilogranis	300 1/	300 1/	300 1/	300	300
Iron ore and concentrate, gross weight		(5/)				3/
Metal:	=	(3/)				3/
Pig iron:						
For foundry use	thousand tons	298	294	206	204 r/	250
For steel production	do.	5,999 r/	6,021 r/	5,899 r/	6,662 r/	7,000
Other	uo.	218	183	193	216 r/	250
Total		6.515 r/	6,498 r/	6,298 r/	7,082 r/	7,500
Ferroalloys:		0,515 1/	0,470 1/	0,270 1/	7,002 1/	7,500
Ferrochromium		1,930 r/	35,300 r/	38,400 r/	7,000	7,000
Ferromanganese:		1,750 1/	33,300 1/	30,400 1/	7,000	7,000
From blast furnaces		57,400	43,400	56,400 e/	55,000	50,000
From electric furnaces		9,200	4,800	1,100 r/	1,000	1,000
Ferrosilicon		60,100	36,100	43,100 r/	40,000	40,000
Other electric furnace ferroalloys		34,700	30,800	30,000	30,000	30,000
Total electric furnace		105,000	107,000	113,000 r/	78,000	78,000
Spiegeleisen			100	r/		
Steel, crude:	=		100	*/		
From open hearth furnaces	thousand tons	2,640	1,820	1,660	1,631 r/	2,000
From oxygen converters	do.	5,750	6,250	6,160	7,033 r/	7,090
From electric furnaces	do.	2,050	1,800	2,120	2,447 r/	2,800
Other	do.	6	2	-,	2 r/	-,
Total	do.	10,446	9,872	9,940	11,113	11,890 3/
Semimanufactures:		,	-,	-,	,	,
Rolled excluding pipe	do.	8,040	7,550	7,630 r/	8,595 r/	8,959 3/
Pipe	do.	519	520	488 r/	503 r/	572 3/
Lead:						
Pb-Zn ore, gross weight	do.	4,849 r/	5,017 r/	4,817 r/	4,871 r/	4,900
Mine output, Pb content		63,600	70,100	68,400 r/	68,000	68,000
Concentrate, gross weight		67,000 e/	68,600	67,400 r/	67,000	67,000
Pb content		47,000	51,000 r/	49,100 r/	48,000 r/e/	48,000
Metal:						
Smelter:						
Primary		20,800	22,300	30,400 r/	30,000 r/	30,000
Secondary		33,000 r/	36,200	35,500 r/	35,000 r/	35,000
Total		53,800 r/	58,500	65,900 r/	65,000	65,000
Refined		50,800	56,700	62,300	61,300	62,000
Silver, mine output, Ag content, recoverable		899	798	767	1,064 r/	1,000
Zinc:		***			,	-,
Mine output, Zn content		175,600 r/	186,200 r/	182,600 r/	185,000	185,000
Concentrate output, Zn content	-	144,700 r/	151,700 r/	150,900 r/	150,000	150,000
Metal, refined, including secondary		126,000	134,600 r/	149,100 r/	158,000	155,000
See feetnets at and of table		120,000	15 .,500 1/	1.7,100 1/	100,000	155,000

See footnotes at end of table.

TABLE 1--Continued POLAND: PRODUCTION OF MINERAL COMMODITIES 1/

(Metric tons unless otherwise specified)

Commodity 2/		1991	1992	1993	1994	1995 e/
INDUSTRIAL MINERALS Barite		19 200	15 700	/	25,000	20,000
Cement, hydraulic	thousand tons	18,300 12,012 r/	15,700 11,908 r/	r/ 12,200	25,000 13,834 r/	20,000 13,884 3/
Clays and clay products, crude:	tnousand tons	12,012 1/	11,908 r/	12,200	13,834 1/	13,884 3/
Bentonite	do.	35	18	9	21	20
Fire clay	do.	443	362	316	316	300
Kaolin:	<u>uo.</u>	443	302	310	310	300
Crude	do.	233	229	265	230	250
Beneficiated	do.	44	42	48	48	50
Diatomite	<u>uo.</u>		1,500	1,300	1,300	1,500
Feldspar:			-,	-,	-,	-,
Run of mine		24,000 r/	34,000 r/	43,000 r/	30,000	30,000
Beneficiated		23,800	22,600	30,700	25,000	25,000
Gypsum and anhydrite, crude 6/	thousand tons	819	848	832	1,055 r/	950
Lime, hydrated and quicklime	do.	2,413 r/	2,526 r/	2,584 r/	2,516 r/	2,500
Magnesite:						
Ore, crude	do.	14,000	17,000	34,000 r/	34,000	34,000
Concentrate	do.	8,100	12,900	13,000	16,400	16,000
Calcined		1,900	1,800	1,400 r/	1,500	1,500
Nitrogen, N content of ammonia	thousand tons	1,531 r/	1,490	1,419 r/	1,500 r/	1,500
Salt:						
Rock	do.	556	582	718 r/	750 r/	700
Other	<u>do.</u>	3,284 r/	3,305 r/	3,099 r/	3,324 r/	3,300
Total	do.	3,840 r/	3,887 r/	3,817 r/	4,074 r/	4,000
Sand, excluding glass sand	do.	3,458 r/	2,503 r/	2,892 r/	1,800	2,000
Silica:		20.000	20.500	55.500 /	20.000	20.000
Quartz, crystal		28,800	30,600	55,600 r/	30,000	30,000
Rock crystal		55	104.000	120,000	110,000	110,000
Quartzite , refractory		167,000	104,000	129,000	110,000	110,000
Quartz schist Glass sand	thousand tons	18,100 875	13,300 783	11,500 824	12,000 759	12,000 800
Glass:	thousand tons	673	763	024	139	800
Construction, flat	do.	323	308	295	266 r/	300
Technical	do.	50	40	44	46 r/	45
Commercial	do.	58	53	48	54	55
Packing	do.	592	565	624	712 r/	700
Sodium compounds, n.e.s.:		3,2	202	02.	, 12 1,	, 00
Carbonate (soda ash)	do.	962	929	815	997 r/	1,000
Caustic soda (96% NaOH)	do.	324	326	296	297 r/	327 3/
Stone:						
Dolomite	do.	4,702 r/	4,809 r/	4,305 r/	4,500	4,500
Limestone	do.	12,006 r/	11,373 r/	11,075 r/	11,500 r/	11,000
Sulfur:						
Native:						
Frasch	do.	3,280	2,330	1,860	2,200	2,200
Other than Frasch	do.	601	562			
Total	do	3,881	2,892	1,860	2,200	2,200
Byproduct:						
From metallurgy	do.	185	207	220	200	200
From petroleum	do.	28	26	29	25	25
Total	do.	213	233	249	225	225
From gypsum e/	do	10	10	10	10	10
Total sulfur e/	<u>do.</u> =	4,104	3,135	2,119	2,435	2,435
MINERAL FUELS AND RELATED MATERIAL	.5					
Coal:		140.276	121 521 /	120 470 /	122.022	126 161 27
Bituminous	do.	140,376 r/	131,531 r/ 66,852 r/	130,479 r/	133,933 r/	136,161 3/
Lignite and brown	do.	69,406 r/		68,129 r/	66,770 r/	63,547 3/
Total Coker	do	209,782 r/	198,383 r/	198,608 r/	200,703 r/	199,708
Coke:		11 216/	11 026/	10 275/	11 /5//	11.570
Coke oven	do.	11,316 r/	11,036 r/	10,275 r/	11,454 r/	11,570
Gashouse	do.	55 40	27	7	2 r/	9
Semicoke Total	do	11,411 r/	31 11,094 r/	10,282 r/	r 11,456 r/	11,579 3/
Fuel briquets, all grades	do.	125	95	102	92 r/	95

See footnotes at end of table.

TABLE 1--Continued POLAND: PRODUCTION OF MINERAL COMMODITIES 1/

(Metric tons unless otherwise specified)

Commodity 2/		1991	1992	1993	1994	1995 e/
MINERAL FUELS AND RELA	ATED MATERIALSContinued					
Gas:						
Natural	million cubic meters	4,130	4,020	4,950	4,635 r/	4,820 3/
Manufactured:						
Town gas	do.	70 r/	60 r/	38 r/	15	15
Coke oven gas	do.	5,056 r/	4,881 r/	4,435 r/	4,911 r/	4,900
Blast furnace gas	do.	12,499	11,895	11,247	12,847	12,500
Generator gas	do.	924	670	554	399	400
Total	do.	18,549	17,506	16,274	18,172	17,815
Natural gas liquids, e/	thousand 42-gallon barrels	30	30	30	30	30
Peat, fuel and agricultural	thousand tons	167	134	110	100	100
Petroleum:						
Crude:						
As reported	thousand tons	158	199	235	284 r/	280
Converted	thousand 42-gallon barrels	1,170	1,480	1,740	1,700	2,070
Refinery products 7/	do.	85,700	93,000	99,000	98,000	100,000

e/ Estimated. r/ Revised.

^{1/} Table includes data available through June 1996.
2/ In addition to the commodities listed, antimony, cobalt, germanium, a variety of crude nonmetallic construction materials, and carbon black also are produced but available information is inadequate to make reliable estimates of output levels. Poland also may produce alumina in small quantities, but details of such an operation if it exists are not available.

^{3/} Reported figure.

^{4/} Based on official Polish estimates.

^{5/} Less than 1/2 unit.

^{6/} Includes building gypsum, as well as an estimate for gypsum used in production of cement.

^{7/} Includes virtually all major products; excludes some minor products as well as refinery fuel and losses.

${\it TABLE~2} \\ {\it POLAND:~STRUCTURE~OF~THE~MINERAL~INDUSTRY~FOR~1995} \\$

(Thousand of metric tons unless otherwise specified)

Commodity	Major operating companies	Location of main facilities	Annual capacity	
Aluminum:	<u> </u>			
Primary	Huta Aluminium	Konin	50.	
Secondary	do.	do.	20.	
Coal:		71 ·	200.000	
Bituminous	Hard Coal Association in	71 mines at Upper Silesian Basin,	200,000	
	Liquidation State Coal	Lower Silesian Basin, and Lubin Basin	2.	
Lignite	Agency State Coal Agency	4 open pit mines at Turow	75,000.	
Copper: Concentrate	State Coal Agency	4 open pit nimes at 1 urow	75,000.	
(gross weight)	Kombinat Gorniczo Hutniczy	Mines and concentrators at Konrad,	1,900.	
(gross weight)	Miedzi (KGHM)	Lubin, Polkowice, Pudna, and	1,700.	
		Sieroszowice		
Metal, refined	KGHM	Refineries at Glogow I, Glogow II,	430.	
,		and Legnica		
Ferroalloys	Ministry of Industry	Plants at Laziska, Bobrek, Siecznice, and	270.	
•	•	Pokoj producing FeMn, FeSiMn, FeSi, FeCr,		
		and FeW		
Lead-zinc:				
Concentrate	do.	Nonferrous Metals Association (Mines and	125 Pb.	
		concentrators at Boleslaw, Orkuz-	225 Zn.	
		Pomorzany, and Trzebionka)		
Metal:				
Pb, refined	do.	Smelters and refineries at Miasteczko	115.	
		Slaskie, Szopienice, and Orzel Bialy		
Zn, refined	do.	Smelters and refineries at Boleslaw, Silesia,	145.	
	201	and Szopienice		
Natural gas	Ministry of Mining and Energy	Gasfields at pre-Carpathian foothills	6,000.	
(million cubic meters)		Carpathian Mountains Lowlands, near		
		Ostrow Wielkopolski, Poznan, and Trzebnica,		
Petroleum (million barrels):		north of Wroclaw		
Crude	do.	Oilfields in northern lowlands, near	1.4.	
Crude	do.	the Baltic Sea; sub-Carpathian and	1.4.	
		Carpathian Mountains		
Refined	do.	Refineries at Glinik, Mariampolski,	125.	
		Jasto, Jealicze, Warinsky, Czechowice,	120.	
		Gdansk, etc.		
Salt, all types	Ministry of the Chemical Industry	Main mines at Inowroclaw, Klodowa,	6,500.	
* -	•	and Wapno in central Poland		
Silver	Zaklady Metalurgiczne Trzebinia	Refined from dore produced by the	1.	
		Szopienice Pn-Zn smelter-refinery		
		largely from KGHM supplied slimes		
Steel	Ministry of Metallurgy	Main facilities include integrated	18,000.	
		ironworks and steelworks at Krakow,		
		Katowice, and Warsaw		
Sulfur	Ministry of the Chemical Industry	Kopalne i Zaklady Przetworcze Siarki	5,700.	
		im. M. Howotki "Siarkopol" at		
		Tarnobrzeg operates the Grzybow		
		Jeziorko and Machow Mines		